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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,894

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EXAMINER

LEONARD, MICHAEL L

ART UNIT

PAPER NUMBER

1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,894	Applicant(s) BURCKHARDT ET AL.	
	Examiner MICHAEL LEONARD	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-21 is/are pending in the application.
- 4a) Of the above claim(s) 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-13 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/01/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1, 3-13, and 21, drawn to a one-component polyurethane composition.

Group II, claim(s) 14-17, drawn to a method of adhesively bonding, sealing, or coating a surface.

Group III, claim(s) 18-20, drawn to a catalyst for polyurethane compositions.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Grogler, U.S. Patent No. 4,786,655, discloses a polyurethane composition made by reacting a polyisocyanate with a relatively high molecular weight dihydroxyl compound in the presence of a bismuth salt of an organic carboxylic acid and a low molecular weight diamine. Dammann U.S. Patent No. 4,788,083 discloses an activatable catalyst which is effective for the reaction of a hydroxyl compound with an isocyanate wherein the catalyst contains a tertiary amine activator, such as quinoline and isoquinoline.

During a telephone conversation with Channing Mahatan on 3/6/2009 a provisional election was made with traverse to prosecute the invention of Group I, claims 1, 3-13 and 21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-20a are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result**

in a loss of the right to rejoinder. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

****Examiner Note:** Claim 2 has been cancelled.

Objections

The abstract of the disclosure is objected to because the abstract should be a single paragraph. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

Claims 1, and 3-13 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 4,788,083 to Dammann et al.

As to claims 1, 3, 5, and 11-13, Dammann discloses a polyurethane coating and primer composition (Column 11, lines 65) prepared from a hydroxyl containing compound and an isocyanate (Abstract) and a catalyst system which is obtained from a bismuth or tin catalyst, a complexing agent selected from a mercapto group all in the presence of a tertiary amine (Column 2, lines 50-58) wherein the amine activator can be selected from quinoline or isoquinoline (Column 10, lines 61-62).

Dammann discloses a reaction with a mercaptan group to produce a more stable catalyst system that enables the pot life of the polyol/polyisocyanate mixture to be twice as long as the same mixture containing only the tin catalyst (Column 4, lines

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10-17). It would have been obvious to a person of ordinary skill in the art to combine react a tertiary amine activator such as quinoline or isoquinoline in combination with a stable catalyst as disclosed by Dammann to enhance the conversion of the inactive catalyst species III to active catalyst species II or IV in order to promote a faster reaction between the polyol and polyisocyanate.

It is noted that claim 4 further limits optional component B. However, claim 4 is still rejected under Dammann as being an optional component.

As to claim 6, Dammann discloses conventional bismuth catalysts, such as, bismuth tricarboxylates (acetates, oleates, etc.) that can be used in the present invention.

As to claim 7, Dammann discloses with respect to the proportions of catalyst system that the tin or bismuth catalyst should be adjusted to be in an effective catalytic amount for the polyol/isocyanate reaction. Typically, this translates into catalyst concentration levels ranging from 0.0001 to about 1.0 weight percent (Column 8, lines 43-47). Dammann further discloses that the catalyst/complexing ratios will vary depending upon the particular tin or bismuth catalyst, the particular mercaptan, and the polyol and polyisocyanate chosen. Generally, the metal content of the catalyst ranges from 2:1 to 500:1 mole ratios (Column 8, lines 55-62). Dammann further discloses that the proportion of the amine activator may range up to 6 percent or more, percentages of less than 1, such as 0.25 will suffice (Column 11, lines 15-19).

As to claim 8, Dammann discloses in formula IV (Drawings section) wherein the tertiary amine activator is bonded to the tin compound. It should be noted that while the

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tin coordination bond is shown, Dammann discloses even though the foregoing description are illustrative of the present invention include tin as the metal compound, the active metal catalyst may also be bismuth (Column 5, lines 3-5). Dammann further discloses that the isocyanate functionality is reactive with the complexing agent (mercapto group) which enhances the conversion of inactive catalyst species III (tin or bismuth) to active catalyst species IV (Column 4, lines 59-62 and drawings).

As to claim 9, Dammann discloses catalyst systems containing mixtures of tin or bismuth coordinated complexes (Column 2, lines 18-19).

As to claim 10, Dammann discloses drying or curing the coating at ambient temperature (Column 17, Table 13).

Claims 21 is rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 4,788,083 to Dammann et al. in view of U.S. Patent No. 3,635,906 to Jayawant.

Dammann is described above and is applied here as such.

Dammann fails to disclose wherein R7 is OH on the aromatic nitrogen compound.

Jayawant discloses a method for preparing polyurethanes using a tin catalyst in combination with a beta-hydroxy nitrogen-heterocyclic fused aromatic (Column 1, Abstract of the disclosure) such as 8-hydroxyquinolines of the formula presented in Column 7, line 65.

Dammann and Jayawant are analogous art because they are from the same field of endeavor with respect to preparation of polyurethanes and because they are solving the same problem which is using certain chelate-forming compounds that have the effect of delaying initiation of reaction between polyisocyanates and organic polyhydroxyl compounds (Jayawant, Column 1, lines 66-70, Dammann, Column 2, lines 59-62). Dammann and Jayawant disclose the use of tin catalysts in the catalyst systems. Dammann further disclosed that the metal catalyst can contain bismuth, such as bismuth tricarboxylates (Dammann, Column 5, line 5 and 29).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use 8-hydroxyquinoline as disclosed by Jayawant in the catalyst system disclosed by Dammann to aid in the suppression of the reaction between polyisocyanates and hydroxyl-containing compounds, thereby extending the pot life of the reaction medium without retarding the rate of cure, once cure is initiated (Jayawant, Column 1, lines 70-72).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL LEONARD/
Examiner, Art Unit 1796

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796